Editorial

Ruby Thoughts!

During *Gold Bulletin's* 40th year of celebration since it was first published, it is appropriate to reflect on the advances in gold science and technology made during that time period. The ruby colour of colloidal gold, known as 'Purple of Cassius' (see *Gold Bulletin*, 1976, **9** (4), 134–139) is notable for its stability and in fact a preparation by Michael Faraday (*Phil Trans*, 1857, **147**, 145) lasted until the 1940s when it was destroyed by enemy action in World War II. It is therefore fascinating that much more recently it has been found that, when colloidal gold is immobilized on a carbon or oxide support, very active catalysts result, some of which have a colour reminiscent of ruby. Gold colloids have therefore contributed to the very large change in the perceived value of gold as a catalyst over the last 40 years.

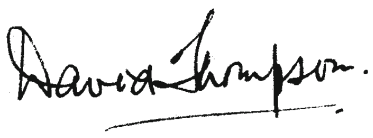
As indicated in our previous issue (*Gold Bulletin*, 2007, **40**, 4), Prof Geoffrey Bond said as recently as 1971 that "Although the catalytic properties of gold are surpassed by those of the Group VIII metals, especially palladium and platinum, possible applications of gold in catalytic processes have been widely studied, more especially for oxidative dehydrogenation." This undoubtedly represented the general opinion amongst catalyst investigators in the 1970s. Since then, however, Prof Bond and many others have played important roles in developing our knowledge of gold catalysts and their potential for exciting applications, as reported regularly in *Gold Bulletin and CatGold News*. Gold catalysts are unique in many respects, especially in their low temperature activity and selectivity and their ability to catalyse some reactions which cannot be achieved by other precious metal catalysts.

The excitement generated by the ever increasing numbers of papers and patents on gold catalysis is now turning into clear evidence of commercial applications for the technical advances described. Developments in both gaseous pollution control applications as well as in liquid phase chemical processing are taking place where there is now clear evidence of increases in catalyst durability. This is building on the now well established high activity achieved for gold catalysts: see *CatGoldNews* No12, incorporated into this issue of *Gold Bulletin*.

As *Technical Editor* of *Gold Bulletin* from 1996 to 2002, I saw at first hand how research into catalysis by gold was making rapid advances in spite of early scepticism by traditional precious metals catalyst practitioners who were still convinced that gold was too stable to have properties of this kind. Today, however, gold catalysis is generally regarded as an important new and exciting part of the field of catalysis as a whole.

I am therefore very pleased to know that *Gold Bulletin* is thriving in its 40th year and will have a record number of pages, with papers in all fields of research endeavour for gold, including developments in nanotechnology, chemistry and metallurgy, as well as catalysis; some of them derived from presentations at GOLD 2006. Firm evidence of the usefulness of *Gold Bulletin* is provided by the ever increasing number of visits to – and downloads from – its website (www.goldbulletin.org).

So, I conclude that *Gold Bulletin* is in a very healthy condition and am sure that it will continue to be exciting to be involved in its reporting on significant developments of gold science and technology in the future, and indeed in this journal continuing to play an important role in encouraging and promoting these developments.



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